

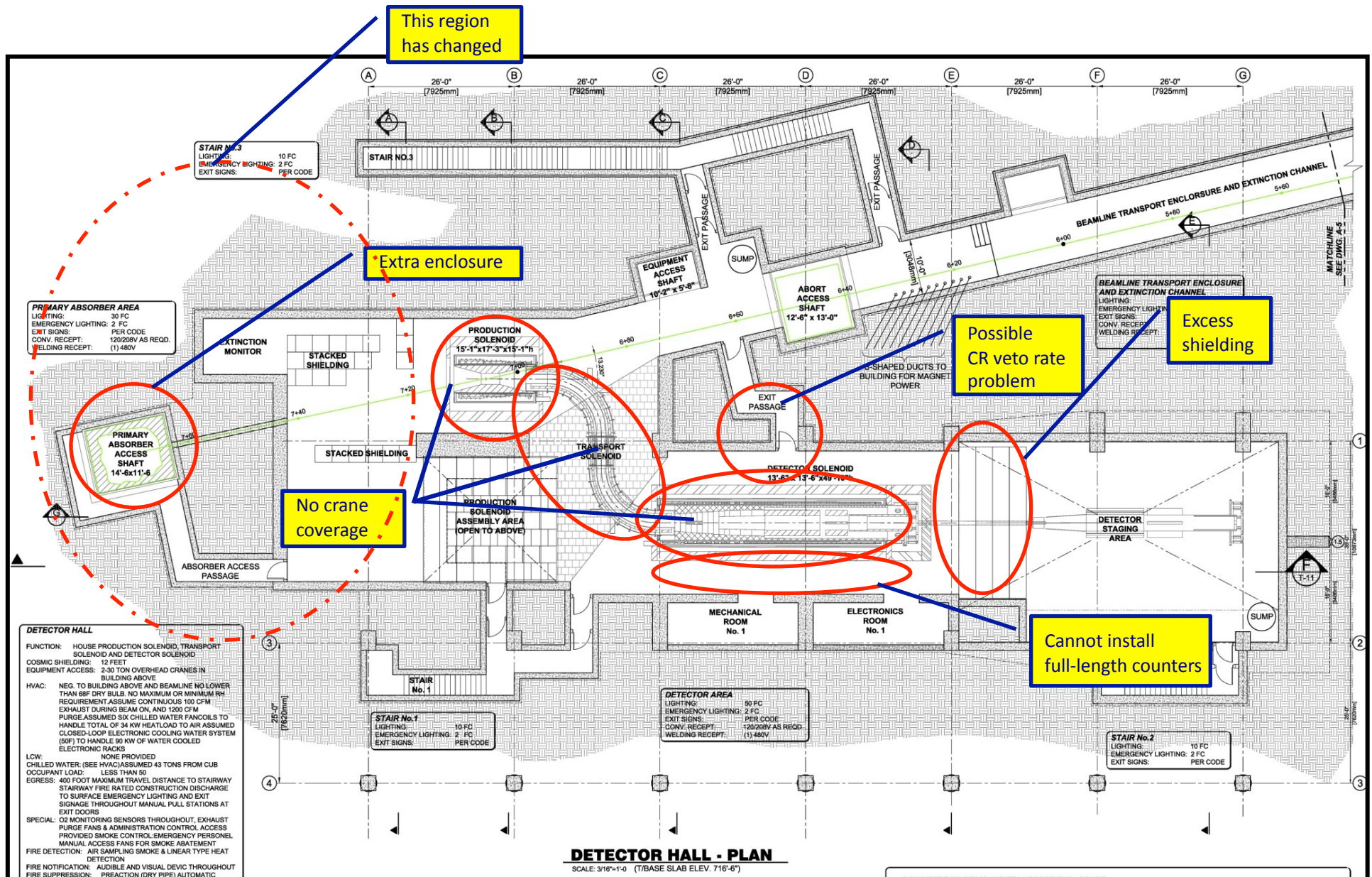
Alternative Building Configuration

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mu2e Collaboration Meeting
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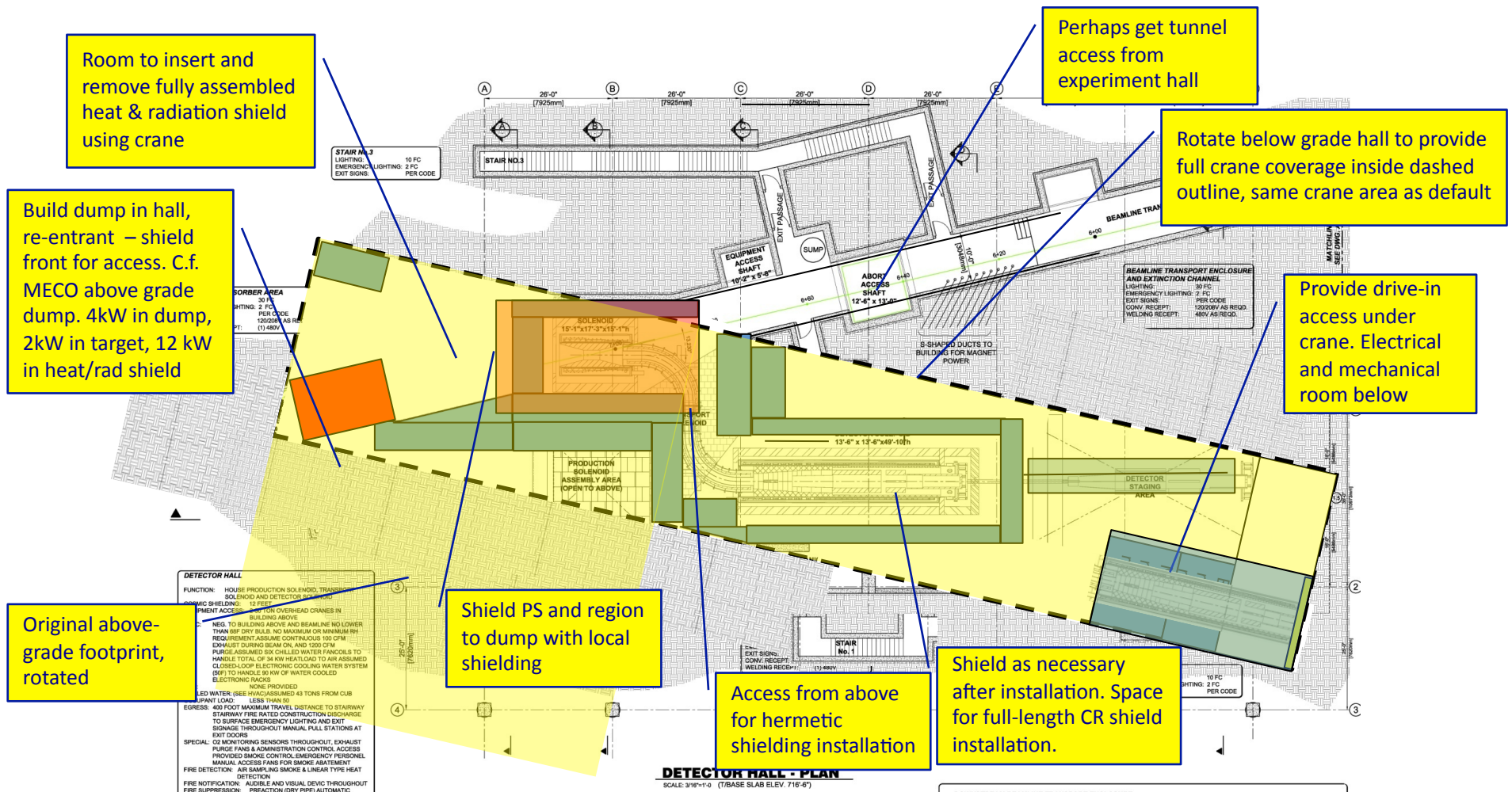
Motivation for Serious Alternate Design Study

- There is no crane coverage for nearly all of the large elements in the hall: the solenoids, the return yoke steel for the solenoids, and much of the area that must be shielded (for example around the TS).
- Access to the areas around the solenoids is restricted. This may make it difficult to connect cryogenics lines and make other connections.
- It is difficult to access the CR shield detectors, both to install and to repair. It appears that the CR shield detectors cannot be installed as currently designed with full width segments under the PS.
- Installation of shielding, for example around the TS, appears difficult. It must be built up above the TS and below a roof, without crane coverage. Access to thin window for anti-protons will be extremely difficult.
- The building looks expensive. It is perhaps deeper than necessary, more complex installation is required, lack of access from above may be driving use of multiple access stairs, etc. An alternate design would trade some of the costs associated with these features for the cost of movable shielding.
- It might be that shielding will be available from the Tevatron decommissioning.
- Potentially easier detector installation and maintenance coupled with possible cost savings deserves a more detailed look.

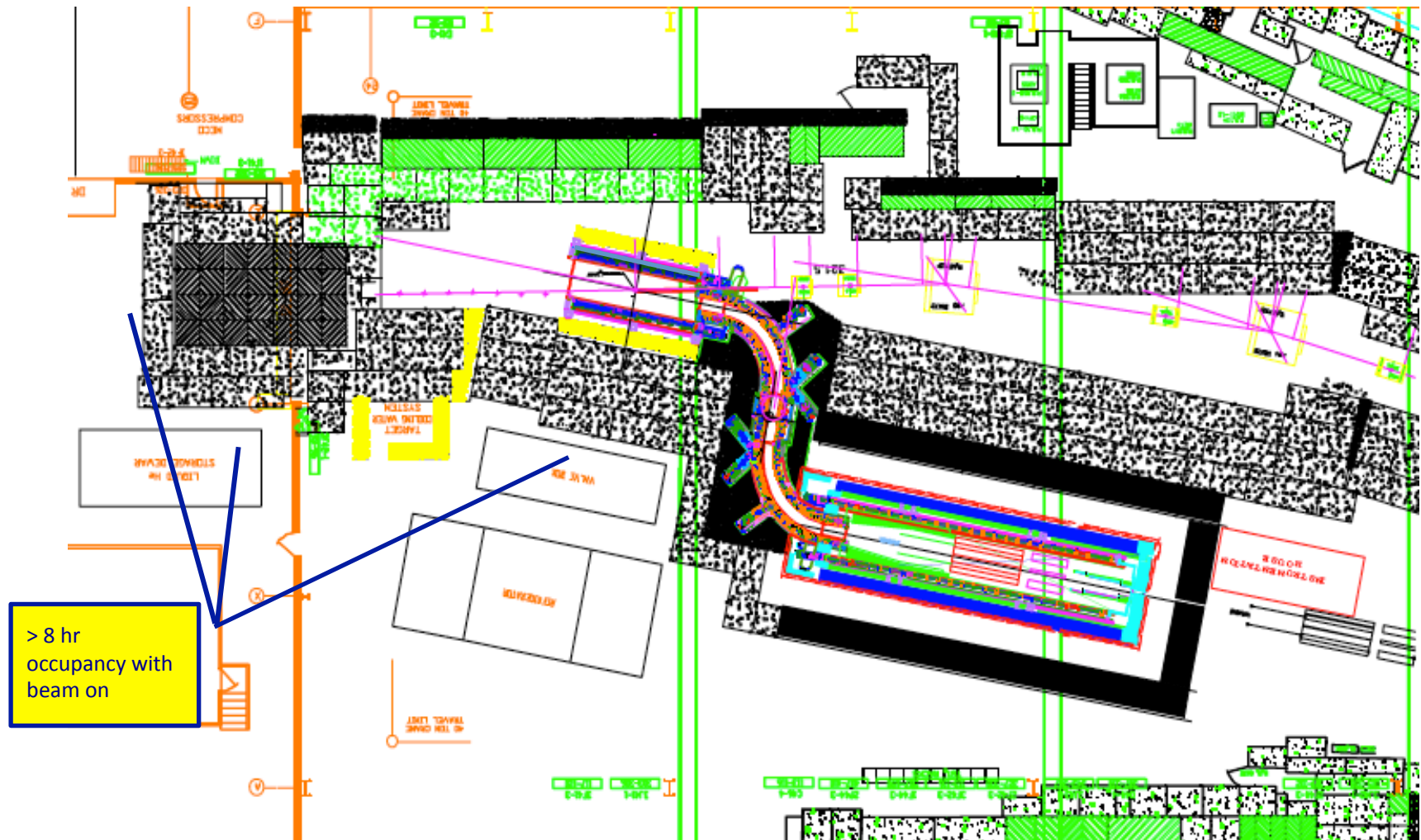
Possible Disadvantages of Current Design



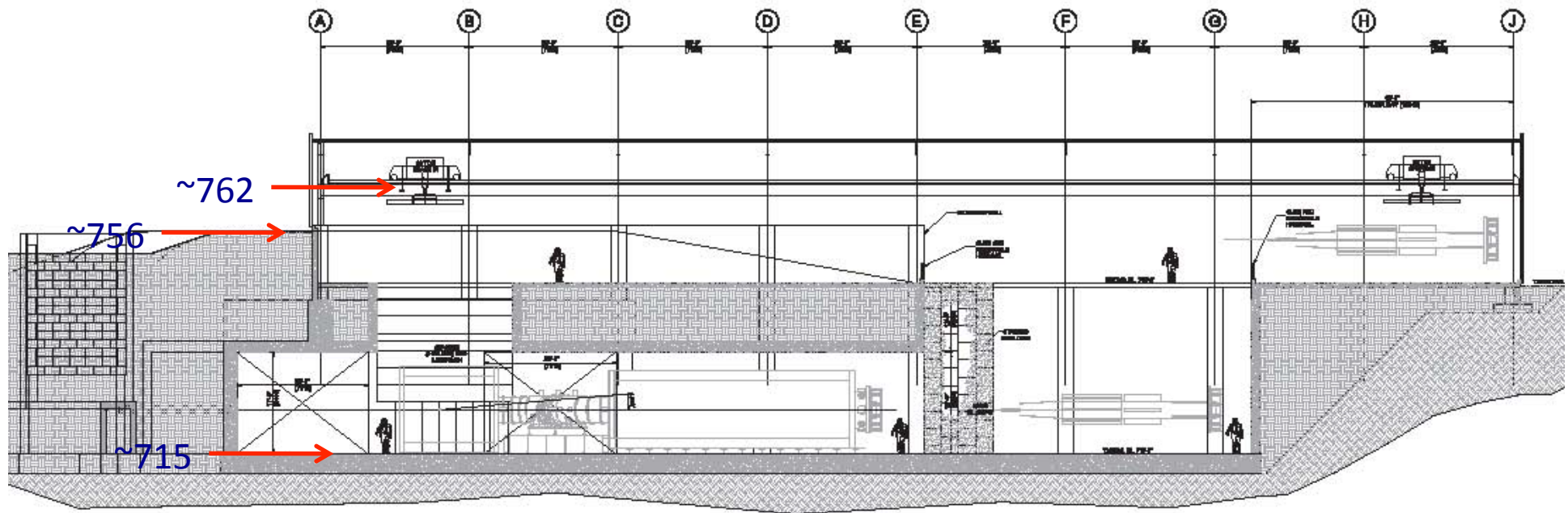
Building Layout



Above Grade Dump at BNL



Original elevation



SECTION
SCALE 1" = 1'-0"



Modified Elevation

- Raise below grade floor by 7-8 feet
- Proton beam horizontal through the PS
- Room for 21 feet shielding top of PS steel to crane hook height – use some heavy shielding
- Experimental hall could be at the same elevation with no complication, it could also be raised about 7 feet to put it at same level as beam out of debuncher and to save civil construction cost (if it does).

